

REMARKS

The Applicants appreciate the Examiner's careful examination of this case. Reconsideration and re-examination are respectfully requested in view of the instant remarks.

The Applicants agree with the status as set out in paragraph 1 of the Office Action.

With regard to paragraph 2 of the Office Action, the Applicants are obliged to the Examiner for acknowledging receipt of the paper submitted under 35 U.S.C. 119(a)-(d).

With regard to paragraph 3 of the Office Action, the Applicants were obliged to the Examiner for withdrawing the previous 35 US 112 claim rejection.

With regard to paragraphs 4 and 5 of the Office Action, an amended abstract is proposed herein. The amended abstract is believed to meet the objections of the Examiner.

In paragraphs 6 and 7 of the Office Action, the Examiner has rejected claims 11 – 18 under 35 U.S.C. 103(a) as being unpatentable over Vetro et al (USA Patent 6,650,705) in view of Cosatto et al (USA Patent 5,864,630). The Applicants respectfully disagree with this rejection of claims 11 – 18.

More specifically, in paragraph 7 of the Office Action, the Examiner states in reference to the Applicants' claim 11 that Vetro et al teaches a multi-channel image display device with low frame rate source channels forming the background, and a high frame rate source channel. The Applicants respectfully

submit that in fact Vetro et al does not teach this. In support of the Applicants' submission, the Applicants refer to Figure 4 of Vetro et al which shows a single channel of image display data which is to be displayed on image display apparatus, in which a foreground object, being part of this single channel of image display data, has been encoded at a different frame rate from the background of this single channel of image display data. The method disclosed by Vetro et al is applicable to multiple video objects within this single channel of image data, but is not applicable to a multi-channel display device. The single channel of image display data is a single channel of video data.

The apparatus disclosed by Vetro et al is described in Vetro et al claim

15. This refers to:

"apparatus for coding a video, comprising means for partitioning a video into a plurality of objects....."

This does not disclose multi-channel image display apparatus but in fact discloses a single channel of video data.

In addition to the above, the Examiner states in paragraph 7 of the Office Action that Vetro et al does not disclose the Applicants' specific claim limitation specifying at least two background channels and at least one foreground channel. The Examiner says that Cosatto et al teaches at least two background channels and at least one foreground channel and the Examiner refers to

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Cosatto et al column 3 lines 9 – 11 and 23 – 27, column 13 lines 15 – 20, and column 13 line 61 – column 14 line 2.

The Applicants note that Cosatto et al at column 3 lines 9 – 11 and 23 – 27 actually refer to a "multi-channel tracking method". This "multi-channel tracking method" is described in Cosatto et al.

More specifically, column 3 lines 56 – 67 describes the channels disclosed by Cosatto et al and states as follows:

"The methods use three channels for tracking three separate parameters. A first channel performs a shape analysis on gray-level images to determine the location of individual facial features as well as the outlines of heads. A second channel performs a colour analysis using a clustering algorithm to determine areas of skin colours. The colour channel may, but need not, be calibrated prior to activation by using results obtained from one or more separate channels. A third channel performs a motion analysis wherein motion information is extracted from frame differences. The motion analysis determines head outlines by analyzing the shapes of areas having large motion vectors".

The channels disclosed by Cosatto et al are not two background channels and at least one foreground channel. They are in fact three different parameters which are tracked within a frame or consecutive frames of a single

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video data stream in order to analyse the content of the video data for changes within that video data and in particular facial and head features contained in the video data. This is not the Applicants' multi-channel image display apparatus. As described above by Cosatto et al, the parameters used are shape, colour and motion. The three parameters assessed are all characteristics within the single channel of video data which is being analysed.

The Applicants' source channels required by the Applicants' claim 11 are also not disclosed by Cosatto et al. Each source channel of the Applicants' specification is a separate discrete channel of video data. Each of the source channels provides video information which is independent of the other channels but, when displayed on the image display apparatus of the invention, enables the production of a continuous image. Therefore, in order to produce a complete image, at least one of the source channels providing the video image data to be displayed by the image display apparatus is supplying video information concerning the foreground of the overall complete image to be displayed, and at least two other source channels provide video information concerning the background of the overall complete image to be displayed.

Neither Vetro et al nor Cosatto et al discloses the Applicants' multi-channel image display apparatus. Both Vetro et al and Cosatto et al disclose methods which can be used to analyse and encode information contained within a single video data image. Vetro et al and Cosatto et al do not disclose means for displaying the encoded data.

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For the above reasons, it is believed that Vetro et al and Cosatto et al when combined together do not provide the Applicants' invention as claimed in claim 11. Vetro et al and Cosatto et al do not relate to the Applicants' multi-channel image display apparatus, but instead both relate to methods for encoding video data within a single video data stream.

The Applicants claim 12 – 16 include all of the features of claim 11, which claim 11 is believed to be allowable for the reasons given above. Therefore claims 12 – 16 are also believed to be allowable over the combination of Vetro et al and Cosatto et al.

Also in connection with claims 14 – 16, it is noted that the Examiner states at the end of paragraph 7 of the Office Action that Vetro et al column 9 lines 1 – 3 and column 11 lines 38 – 46 disclose that higher frame rates are assigned to target objects. It is noted that Vetro et al at column 9 lines 9 – 11 refers to encoding and transcoding of video objects. Column 11 lines 38 – 46 of Vetro et al refer to a weighting scheme, the value of which weighting is determined by the movement within the shape boundary. Neither of these two passages at column 9 lines 9 – 11 and column 11 lines 38 – 46 refer to higher frame rates being assigned to targets, a target in the case of the Applicants' invention being an image which may be displayed at any point in the multi-channel image display apparatus.

With regard to paragraph 8 of the Office Action, the Examiner has rejected claims 17 and 18 as being unpatentable over a combination of Vetro et al, Cosatto et al and further in view of Thomas (USA Patent 5,137,450).

Claims 17 and 18 include all of the features of the Applicants' claim 11. Claim 11 is believed to be allowable for the reasons stated above and therefore claims 17 and 18 are also believed to be allowable.

In addition, it is noted that Thomas discloses a head-slaved display device, but the area of interest referred to by the Examiner (item 31, Figure 4) is actually a fixed area of interest, maintained at a particular point in relation to the pilot. Therefore the area of interest is independent of the head-slaved display.

With regard to paragraph 9 of the Office Action, it is believed that the Applicants' above submissions demonstrate that claims 11 – 18 are allowable even in view of the new grounds of rejection.

Referring to paragraph 10 of the Office Action, the prior art made of record and not relied upon by the Examiner has been carefully considered. This prior art is not believed to affect the above submissions, nor the allowability of claims 11 – 18.

Accordingly, it is respectfully submitted that this application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this RESPONSE is found to be INCOMPLETE, or if at any time it appears that a TELEPHONE CONFERENCE with Counsel would

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help advance prosecution, please telephone the undersigned or one of his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,

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